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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/519,727 | 03/03/2000 | Kok-Wui Cheong | STFUP014 | 6703 |
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| CRAWFORD MAUNU 1270 NORTHLAND DRIVE SUITE390 ST PAUL, MN 55120 | | | EXAMINER CORRIELUS, JEAN B | |
| | | | ART UNIT | PAPER NUMBER |

2637

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/519,727

Applicant(s)

CHEONG ET AL.

Examiner

Jean B Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-24, 26-29, 31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-24, 26 and 31 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 27-29 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see comment filed on 6/13/05, with respect to the 102 rejection of claims 1, 26-28, 31 and 32 and the 103 rejection of claims 3, 4, 6, 27 and 32 have been fully considered and are persuasive. The 102 and 103 rejections have been withdrawn.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the step/means for iteratively computing a probable cross talk signal step or means for calculating the data based on the iteratively computed probable cross talk converging toward the superimposed cross talk, means/step for computing a probable desired signal estimate, as recited in claims 1, 2, 26-29, 31 and 32, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the

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remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 27, 29 and 32 are objected to because of the following informalities:

Claim 27, line 8, "signals" should be "signal" so as to be consistent with antecedent in line 5.

Claim 29, line 3, "estimates are" should be "estimate is". The same comment applies to claim 2.

Claim 32, last line, ""signals" should be "signal" so as to be consistent with antecedent in line 6.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4, 6, 27-29 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 7-8, recites "the iteratively computed probable cross talk signals converging toward the superimposed cross talk". However, it is unclear how a **plurality of probable cross talk signals** will converge toward a **single signal (superimposed cross talk)** as the plurality of probable cross talk signals are generated as a result of refining a previous probable cross talk into a better probable cross talk. The better probable cross talk itself is further refined into another probable estimate and the process continues until a desired result is reached, i.e., convergence toward the superimposed cross talk. In other words, at the end of the process, only the final probable cross talk should result in converging toward the superimposed cross talk not all the probable cross talk estimates.

The same comment applies to claim 28.

As per claim 27 is rejected as being incomplete as a key limitation, i.e., "toward the superimposed cross talk" is omitted after converging. The same comment applies to claim 32.

Claims 2-4, 6, and 29 are likewise rejected because of their dependency to a rejected base claim.

Allowable Subject Matter

6. Claims 7-24, 26 and 31 are allowed.
7. Claims 1-4, 6, 27-29 and 32 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

8. Applicant's arguments filed 6/13/05 have been fully considered but they are not persuasive. It is asserted that the **singular** use of the term "signal" or "estimate", refers to **one iterative** result **while** the plural use refers to the **iterative result as a whole**. Then the claim must be amended in such a way to show that "**said iteratively computed probable cross talk signal**" recited in claims 27 and 32, lines 6-7, respectively, is different from "**said iteratively computed probable cross talk signals**", recited in claim 27 and claim 32, line 8 and line 9, respectively. As per claim 29, the comment is invalid, as "iteratively computing a probable signal estimate" does not refer to "one iterative result", the claim can be amended to insert "to generate a plurality of probable desired signal estimates" to provide antecedent basis for the recitation "the computed probable desired signal estimates" in line 2-4.

The comment stated that **element 305 of the drawing** performs the step/means for iteratively computing a probable cross talk signal; step or means for calculating the data based on the iteratively computed probable cross talk converging toward the superimposed cross talk, means/step for computing a

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probable desired signal estimate. However, element 305 does not shown any of such steps/means. It is suggested that element 305 be expanded to show every feature of the claimed invention.

It is alleged that one skill in the art would recognize that convergence occurs when **multiple items** meet or approach a **specified designation**. However, such broad definition of the term "convergence" does not agree with the claimed invention for the following reasons. As recited in the claim, the iterative process starts with a "single estimate" of the crosstalk and refines such a "single estimate" for a desired number of iterations. According to the iterative process, each iteration will only act on a previous "single estimate" of the crosstalk until that "single estimate" converges towards a "desired value" in a final iteration, in other words, not all the "single estimates" generated during the desired number of iterations will converge towards "the desired value" only the "final estimate" will converge towards "the desired value".

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be


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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean B Corrielus
Primary Examiner
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